

ATS-07-643

1340

Form 3160-3
(April 2004)

~~CONFIDENTIAL~~

OCD-ARTESIA

OCT 31 2007

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM 100333
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name —
2. Name of Operator BTA Oil Producers		7. If Unit or CA Agreement, Name and No. —
3a. Address 104 S. Pecos Midland, TX 79701		8. Lease Name and Well No. Connally Federal, 20509 JV-P, #1
3b. Phone No. (include area code) (432) 682-3753		9. API Well No. 30-015-35898
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 2310' FNL & 1830' FEL SWNE At proposed prod. zone		10. Field and Pool, or Exploratory South Culebra Bluff (Bone Springs)
14. Distance in miles and direction from nearest town or post office* 2 miles southwest from Loving, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 31, T23S-R28E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 1830'	16. No. of acres in lease 200	17. Spacing Unit dedicated to this well 80 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1300'	19. Proposed Depth 8800'	20. BLM/BIA Bond No. on file NM1195
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3117'	22. Approximate date work will start*	23. Estimated duration 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Pam Inskeep</i>	Name (Printed/Typed) Pam Inskeep	Date 09/20/2007
----------------------------------	-------------------------------------	--------------------

Title
Regulatory Administrator

Approved by (Signature) <i>/s/ Don Peterson</i>	Name (Printed/Typed) /s/ DON PETERSON	Date OCT 27 2007
--	--	---------------------

Title FOR FIELD MANAGER	Office CARLSBAD FIELD OFFICE
----------------------------	---------------------------------

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would enable the applicant to conduct operations thereon
Conditions of approval, if any, are attached.
APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

*(Instructions on page 2)

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Operator to comply w special w/special pro 1
rules to produce.

Carlsbad Controlled Water Basin

BRYAN G. ARANT
DISTRICT II GEOLOGIST

- OCD

SEE ATTACHED FOR
CONDITIONS OF APPROVAL



PARTNERS
CARLTON BEAL, JR.
BARRY BEAL
SPENCER BEAL
KELLY BEAL
BARRY BEAL, JR.
STUART BEAL
ROBERT DAVENPORT, JR.

BTA OIL PRODUCERS

104 SOUTH PECOS
MIDLAND, TEXAS 79701

432-682-3753
FAX 432-683-0311

October 12, 2007

GULF COAST DISTRICT
FOUR GREENSPPOINT PLAZA
16945 NORTHCHASE DRIVE, STE. 1600
HOUSTON, TEXAS 77060
PH. 281-872-5022 FAX 281-872-5054

ROCKY MOUNTAIN DISTRICT
600 17TH STREET, STE. 2230 SOUTH
DENVER, CO 80202
PH. 303-534-4404 FAX 303-534-4661

Re: APPLICATION FOR PERMIT TO DRILL
Please hold in CONFIDENTIAL STATUS
20509 JV-P Connally #1
Lease NM100333
2310' FNL & 1830' FEL, Sec. 31, T23S-R28E
Eddy County, NM

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
620 East Greene Street
Carlsbad, NM 88220

In response to your letter requesting additional information regarding the APD's for the referenced wells, BTA hereby requests submits the following:

- Please be advised that BTA has reached an agreement with the Surface Owner in Section 31 for the well site, access road, and PL ROW (Sec. 31 & Sec. 32): Jim and Vickie Connally, Box 599, Loving, NM 88256. Copy of agreement will be provided.
- Exhibits B and C are correct. Directions to the location on Exhibit D have been amended (copy attached). Item 1C on the Multi-Point Surface Use & Operations Plan has been amended accordingly (copy attached).
- All casing will be new. Item 3 of the Ten-Point Drilling Program has been amended (copy attached).
- Cement footage above the casing shoe in Item 4 of the Ten-Point Drilling Program has been added (copy attached).
- Mud weight for the surface string has been added to Item 6 of the Ten-Point Drilling Program (copy attached).

Thank you for your time and attention to our permit request. Should further information be required, please advise.

Respectfully,

PAM INSKEEP
For BTA Oil Producers

APPLICATION FOR DRILLING

BTA OIL PRODUCERS
Connally Federal, 20509 JV-P, NO. 1
2310' FNL & 1830' FEL
Sec. 31, T23S, R28E
Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill, BTA Oil Producers submits the following 10 items for pertinent information in accordance with BLM requirements:

1. Geologic surface formation is Quaternary.
2. Estimated top of geologic markers & depths of anticipated fresh water, oil or gas:

Delaware Mountain Group	2,465'	Oil
Cherry Canyon Marker	3,435'	Oil
Brushy Canyon	4,423'	Oil
Basal Brushy Canyon	5,660'	Oil
Bone Spring	5,967'	Oil

No other formations are expected to yield oil, gas, or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13-3/8" csg at 500' and circulating cement back to surface. Potash/fresh water sands will be protected by setting 9-5/8" csg at 2500' and circulating cement back to surface. The Delaware and Bone Spring intervals will be isolated by setting 5-1/2" csg to total depth and circulating cement above the base of the 9-5/8" casing.

All shows of fresh water and minerals will be reported and protected. A sample will be taken of any water flows and furnished to the BLM, Division of Minerals. All oil and gas shows will be adequately tested for commercial possibilities, reported and protected.

3. Proposed Casing and Cementing Program:

Hole Size	OD Casing	Setting From	Depth to	Weight	Grade	Joint	Collapse Factor	Burst Factor	Tension Factor
17-1/2"	13-3/8"	0	400'	54.5#	J55	STC	4.73	4.96	19.00J
12-1/4"	9-5/8"	0	2,500'	36#	J55	STC	1.55	1.82	4.38J
8-3/4"	5-1/2"	0	8,800'	17#	J55	LTC	1.17	1.26	1.89J

Depending upon availability at the time that the casing is run, equivalent weights and grades may be substituted.

All casing will be new.

Drilling Plan
Connally Federal, 20509 JV-P, #1
Page 2

4. Cement Program:

13-3/8" casing will be cemented with 550 sx Prem Plus w/1% CaCl₂, circulated to surface. 14.8 ppg, 1.34 yield.

9-5/8" casing will be cemented with 600 sx Light Prem Plus with 5 #/sx salt, 0.6% Halad-9, 1/8#/sx Poly-E-Flake, 12.6 ppg, 2.02 yield. Tail with 300 sx Prem Plus. 14.8 ppg, 1.33 yield, circulated to surface.

5-1/2" casing will be cemented with 600 sx Interfill C with 1/8#/sx Poly-E-Flake, 11.9 ppg, 2.47 yield. Tail with w/700 sx Super H w/3% salt, 0.5% Halad-344, 5 #/sx Gulsonite, 0.4% CFR-3, 13.2 ppg, 1.63 yield, to cement back 500' above 8-5/8" shoe.

Note: All casing strings will be pressure tested to 0.22 psi/ft. of setting depth or 1500 psi (whichever is greater) after cementing and prior to drillout.

5. Pressure Control Equipment:

The blowout preventer equipment (BOP) shown in Exhibit A will consist of a (5M system) double ram type (5000 psi WP) preventor and a bag-type (Hydril) preventor (5000 psi WP). Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. The BOP's will be installed on the 13-3/8" surface casing and utilized continuously until TD is reached. All BOP's and associated equipment will be tested as per BLM drilling Operations Order No. 2.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines, and choke manifold having a 5000 psi WP rating.

6. Mud Program:

Surface to 500': 8.5 to 8.8 ppg fresh water spud with 35 to 45 sec/1000 cc viscosity.

500' to 2,500': Brine water. Will use lime for pH control in range 10 to 11. Will sweep hole with gel slugs as required for hole cleaning. Mud wt = 10 ppg.

2,500' to TD: 8.6 to 9.2 ppg controlled brine water. Will use lime for pH control in range 10 to 11. Will sweep hole with salt gel slugs as required for hole cleaning. Will use paper for seepage losses. Will adjust fluid weight as required using brine water.

Drilling Plan
Connally Federal, 20509 JV-P, #1
Page 3

7. Auxiliary Equipment:

- a) Upper Kelly cock valve with handle available.
- b) Lower Kelly cock valve with handle available.
- c) Safety valves and subs to fit all drill string connections in use.
- d) Monitoring of mud system will be mechanical.
- e) H₂S detection equipment will be in operation after drilling out the 9-5/8" csg shoe until the 5-1/2" csg is cemented. Breathing equipment will be on location upon drilling the 9-5/8" shoe until TD is reached.

8. Testing Logging and Coring Program:

Drill Stem Tests will be based on geological sample shows.

Open electrical logging program will be:

- i. TD to Intermediate Csg: Gamma Ray/Compensated Neutron
- ii. TD to Surface: Dual Laterolog, Gamma Ray, Compensated Neutron, Density, Sonic.
- iii. No coring program is planned.
- iv. Additional testing will be initiated subsequent to setting the 5-1/2" production csg. Specific intervals will be targeted based on log evaluation, geological sample shows, and drill stem tests.

9. Potential Hazards:

No abnormal pressures or temperatures are anticipated. If H₂S is encountered, the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 2550 psi. Estimated BHT: 130° F. No H₂S is anticipated to be encountered.

10. Anticipated Starting Date and Duration of Operations:

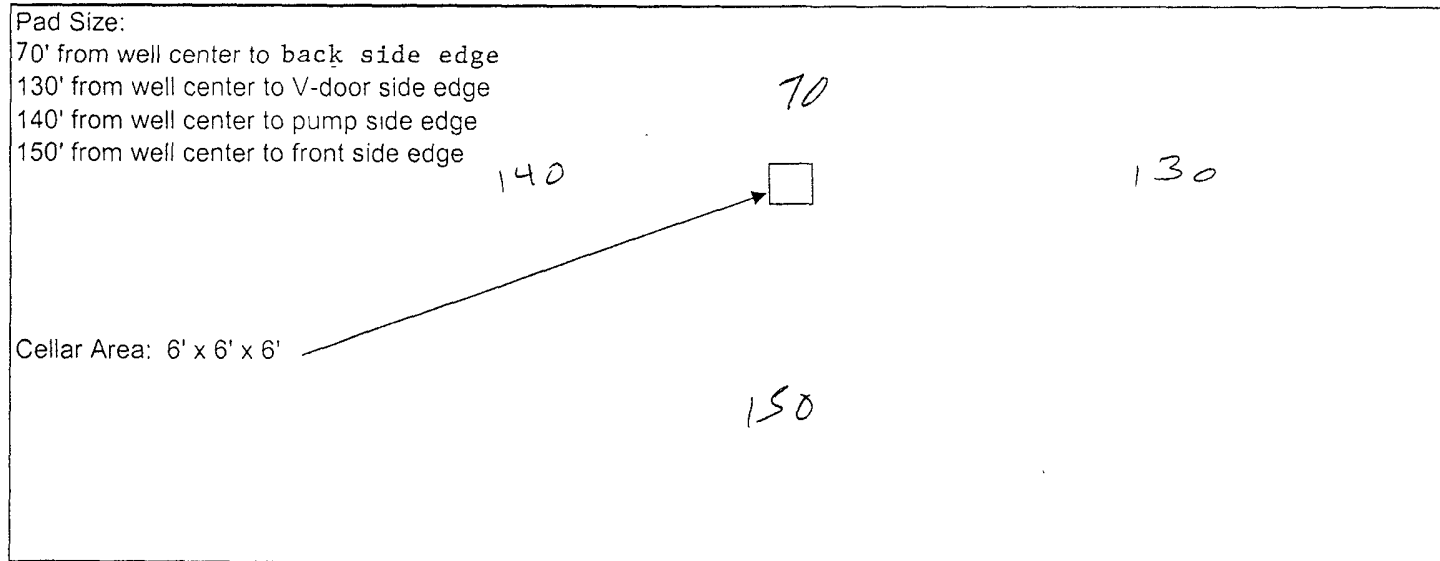
Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig is available. Move in operations and drilling is expected to take 45 days. If production casing is run, an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flowlines to place the well on production.

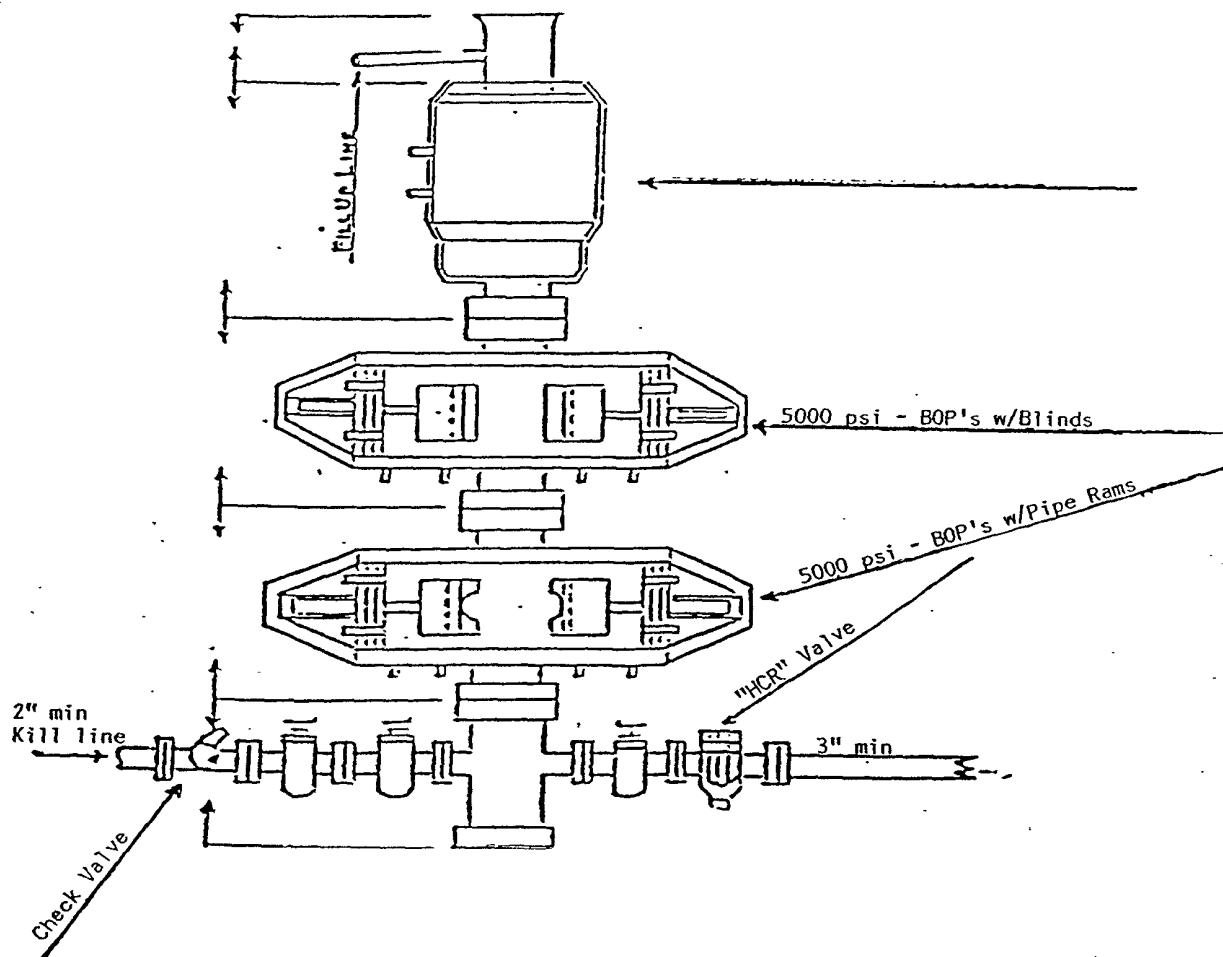
BTA OIL PRODUCERS - PROPOSED LOCATION

BTA OIL PRODUCERS
#1, CONNALLY FEDERAL, 20509 JV-P
Sec. 31, T23S, R28E
Eddy County, New Mexico

PROPOSED LOCATION SIZE
RIG TBD

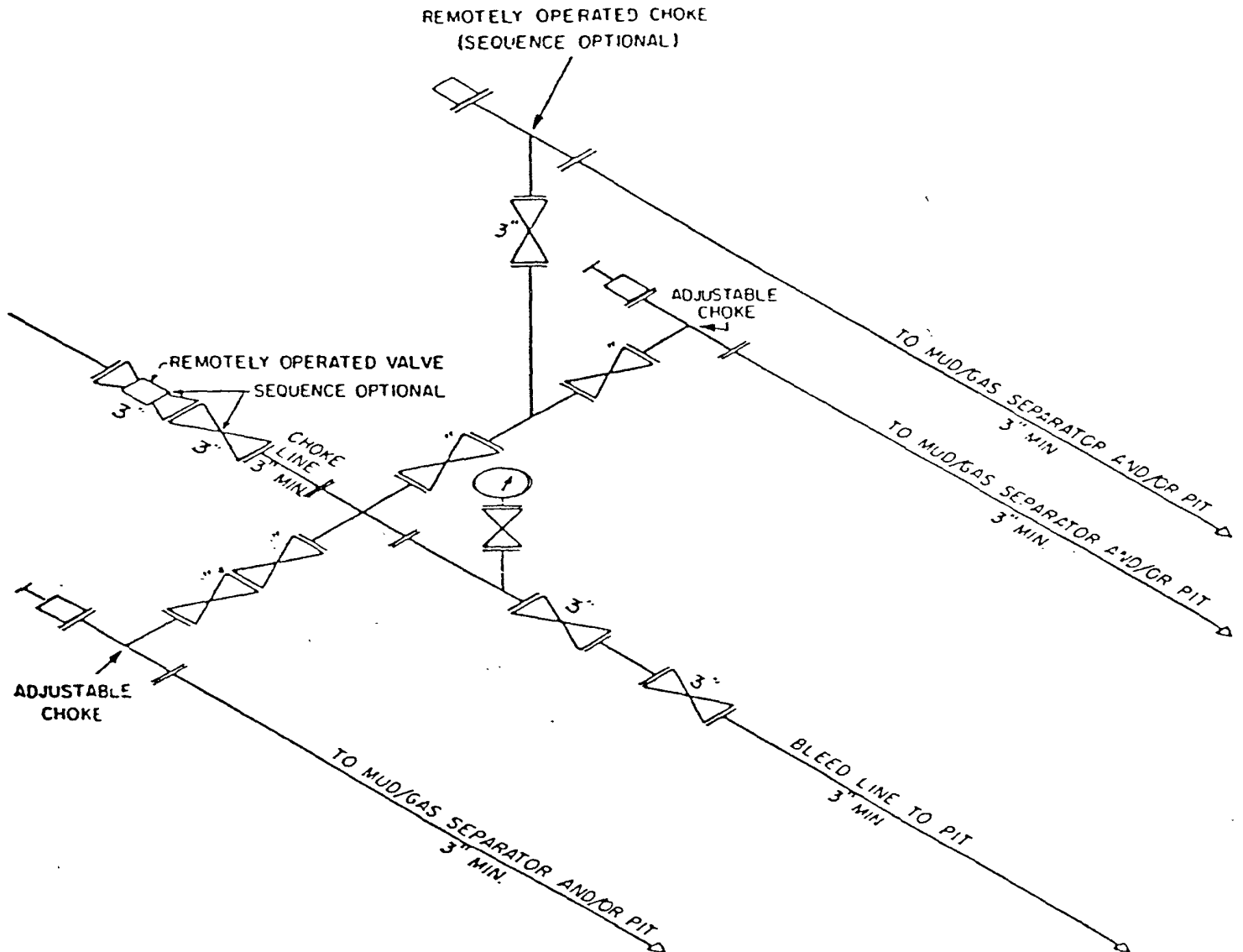
Entrance roads to be located as per BLM
inspector recommendation





BTA OIL PRODUCERS
Connally Federal, 20509 JV-P, NO. 1
2310' FNL & 1830' FEL
Sec. 31, T23S, R28E
Eddy County, New Mexico

5 M CHOKE MANIFOLD EQUIPMENT



CHOKE MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

BTA OIL PRODUCERS
 Connally Federal, 20509 JV-P, NO. 1
 2310' FNL & 1830' FEL
 Sec. 31, T23S, R28E
 Eddy County, New Mexico

SURFACE USE PLAN SUMMARY

FOR

BTA OIL PRODUCERS **#1, CONNALLY FEDERAL, 20509 JV-P** **Sec. 31, T23S, R28E** **Eddy County, New Mexico**

LOCATED: 2 Miles Southwest from Loving, NM

FEDERAL LEASE NUMBER: NMNM 100333

SURFACE OWNERSHIP: Jim and Vickie Connally Mary Watts
Box 599 P. O. Box 56
Loving, NM 88256 Carlsbad, NM 88220
(505) 706-7925

POOL: South Culebra Bluff (Bone Springs)

DEDICATED ACRES: 80

EXHIBITS:

- A. BOP Schematic
- B. Topographic Vicinity Map
- C. Topographic Road Map
- D. Well Location Map
- E. Well Location and Acreage Plat (C-102)
- F. Area Location Map

MULTI-POINT SURFACE USE & OPERATIONS PLAN

BTA OIL PRODUCERS

**#1, CONNALLY FEDERAL, 20509 JV-P
2310' FNL & 1830' FEL
Sec. 31, T23S, R28E
Eddy County, New Mexico**

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the referenced well. The plan describes the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance, and the procedures to be followed in rehabilitating the surface after completion of the operation so that complete appraisal can be made concerning the environmental effects associated with the operations.

1. Existing Roads

- A. The well was staked by John West Surveying Company.
- B. Exhibit –B– is a topographic map showing the location of the proposed well as staked with existing roads and conditions within the one mile area. The proposed location is approximately 2 miles southwest from Loving, New Mexico as shown on Exhibit –C–.
- C. From the intersection of Co. Rd. 763 (Bounds) and Co. Rd. 716 (Higbyhole), go west on Co. Rd. 763 approximately 0.85 miles. Turn left and go south approximately 0.2 miles to a proposed road survey. Follow road survey southwest to the Connally Federal #2 well and proposed road survey. Follow road survey approximately 0.15 miles northwest to this location as shown on Exhibits –C– and –D–.

2. Access Roads

- A. Our proposed new access road will be 2073 feet east from the well pad to the existing county road as shown on Exhibit –C–.
- B. The maximum width of the road will be 15'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion. The road will be maintained during drilling operations and, if productive, as long as producing.
- C. Native caliche will be used for the access road and drill pad, compacted and watered. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be 1°.
- D. No cattle guards, grates, or fence cuts will be required. No turnouts are planned.
- E. We are, with this application, applying for new access ROW from Eddy Co Rd 763 extending to this location for BLM surface.

MULTI-POINT SURFACE USE AND OPERATION PLAN

#1, Connally Federal, 20509 JV-P
Page 2

3. Location of Existing Wells

- A. All existing wells within ½ mile radius of our proposed well are shown on Exhibit –F–.

4. Location of Existing and/ or Proposed Facilities if Well is Productive.

- A. If well is productive, we will use the existing well pad for the tank battery and all necessary production facilities.
- B. If necessary, the well will be operated by means of an electric prime mover. Electric power poles and lines will be set along side of the access road.
- C. All flow lines will adhere to API standards.
- D. Additional facilities, if necessary for operations, will be applied for via Sundry notice with a schematic diagram prior to installation.
- E. Should the well be successfully completed for production, the original topsoil from the site will be returned to the location. The drill site will be contoured as close as possible to the original state.
- F. All facilities will be painted a flat, nonreflective, earthtone color to match the standard environmental colors within six months of installation.

5. Location and Type of Water Supply

- A. Water for drilling and completion operations will either be purchased from commercial water stations in the area and trucked to the well site using the existing and proposed roads or transported from a pre-existing water well by plastic temporary "fas-line" laid on the surface alongside existing roads.

6. Source of Construction Materials

- A. Caliche used for construction of the drilling pad and access road will be obtained from the closest existing caliche pit as designated by the BLM or from prevailing deposits found under the location.
- B. If there is not sufficient material available, it will be purchased from the area designated by the BLM.

7. Methods of Handling Waste Disposal

- A. This will be a closed loop system.
- B. Water produced during operations will be collected in tanks until hauled to an approved disposal system or a separate disposal application will be submitted to the BLM for appropriate approval.

MULTI-POINT SURFACE USE AND OPERATION PLAN

#1, Connally Federal, 20509 JV-P

Page 3

- C. Oil and condensate produced during testing will be stored in test tanks until sold.
- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- E. The supplier will pick up salts remaining after completion of well, including broken sacks.
- F. Trash, waste paper and garbage will be disposed of by hauling to an approved and available disposal. All waste material will be contained in a totally enclosed trash basket with a fine wire mesh, to prevent wind scattering during collection. The road and pad will be kept litter free.

8. Ancillary Facilities

- A. It is possible that a mobile home will be used at the well site during drilling operations.

9. Wellsite Layout

- A. Exhibit –D– shows the proposed pad layout.
- B. No cut and fill will be required at the well site, however, it will require clearing and leveling.
- C. Mud pits in the active circulating system will be steel pits.

10. Plans for Restoration of Surface

- A. Following drilling and/or completion operations, all equipment and material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site as clean as possible.
- B. The unused pad area will be contoured to the natural terrain. Topsoil will be evenly distributed over the entire location. The seedbed will be prepared by disking to a depth of four to six inches following the contour.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the BLM will be complied with and will be accomplished as expeditiously as possible.
- D. All disturbed areas will be seeded on the contour at a depth of one-half inch using the following mixture:
 - 1 pound per acre Alkali Sacaton (*Sporobolus airoides*)
 - 5 pound per acre Four-wing Saltbush (*Atriplex canescens*)
- E. Seeding will be completed after September 15 and prior to November 15th before freeze up or as early as possible the following spring to take advantage of available ground moisture.
- F. Newly constructed access road will be recontoured, disked, and seeded as specified above. All rehabilitation work, including seeding, will be completed as specified by the BLM, or sooner if conditions permit.

• MULTI-POINT SURFACE USE AND OPERATION PLAN

#1, Connally Federal, 20509 JV-P
Page 4

11. Surface Topography

- A. The surface ownership is private: Jim and Vickie Connally, Box 599, Loving, NM 88258 (505) 708-7925 and Marry Watts, P. O. Box 56, Carlsbad, NM 88220. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
- B. Each of the surface owners have been contacted and notified of the staking of our well and our plans for drilling.
- C. The wellsite and access route are located to the west of South Culebra Bluff. The area is fairly flat with sandy loam soil underlain with caliche.
- D. There is no permanent or live water in the general proximity of the location, with the exception of the Southern Canal.
- E. There is a travel trailer and small storage yard within one mile of the drillsite.
- F. Signs identifying and locating our well will be maintained at the drillsite and principle entrance, commencing with the spudding of the well.
- G. An archaeological survey was conducted and a report is being prepared by Southern New Mexico Archaeological Services and will be furnished directly to the Carlsbad BLM office.

12. Bond Coverage: NM1195

13. Operator's Representative:

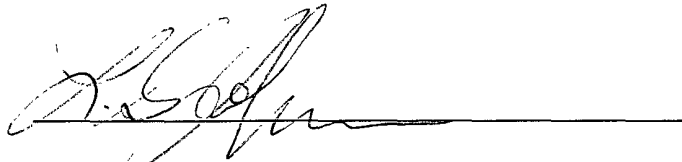
- A. The field representative that is responsible for assuring compliance with the approved surface use plan is:

Drilling Manager: Mr. L. G. Johnson
Phone: 432/682-3753 (Office)
432/682-5149 (Home)
432/553-2756 (Mobile)

OPERATOR CERTIFICATION

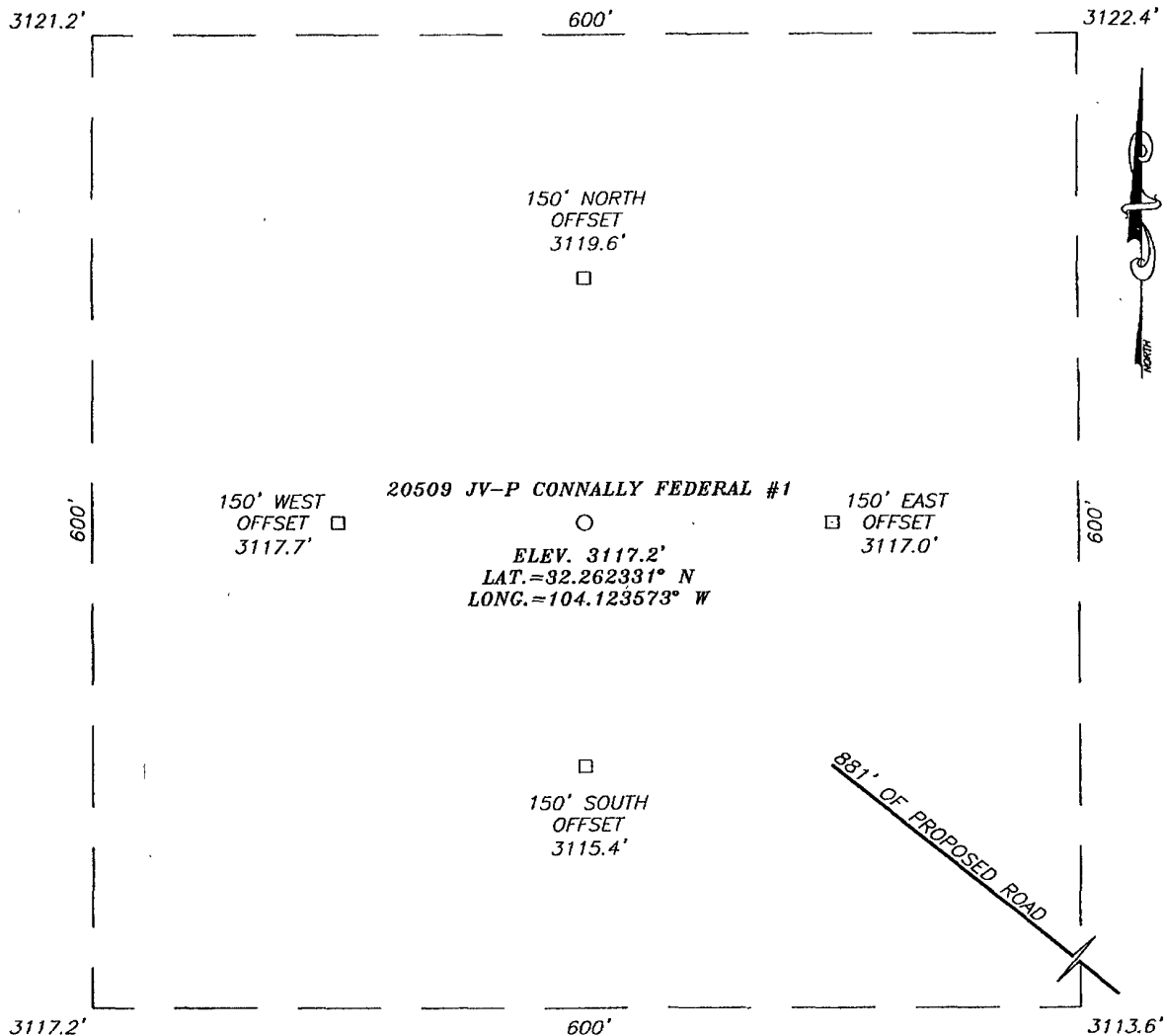
**BTA OIL PRODUCERS
Connally Federal, 20509 JV-P, NO. 2
2130' FSL & 810' FEL
Sec. 31, T23S, R28E
Eddy County, New Mexico**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 USC 1001 for the filing of false statements. Executed this 20th day of September, 2007.

A handwritten signature in black ink, appearing to read 'L. G. Johnson', is written over a horizontal line.

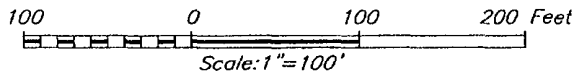
L. G. Johnson
Drilling Manager
BTA Oil Producers
104 S. Pecos
Midland, TX 79701
(432) 682-3753

SECTION 31, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #763 (BOUNDS) AND CO. RD. #716 (HIGBYHOLE, GO WEST ON CO. RD. #763 APPROX. 0.85 MILES. TURN LEFT AND GO SOUTH APPROX. 0.2 MILES TO THE CONNALLY FEDERAL #2 WELL AND PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY APPROX. 0.15 MILES NORTHWEST TO THIS LOCATION.



BTA OIL PRODUCERS

20509 JV-P CONNALLY FEDERAL #1 WELL
 LOCATED 2310 FEET FROM THE NORTH LINE
 AND 1830 FEET FROM THE EAST LINE OF SECTION 31,
 TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

Survey Date: 9/7/07	Sheet 1 of 1 Sheets
W.O. Number: 07.11.1139	Dr By: LA
Date: 9/18/07	Disk: CD#6
07111139	Scale: 1"=100'



PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 2 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(505) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. When floor controls are required, (3M or Greater) controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING – casing changes are to be approved by submitting a sundry

1. The 13-3/8 inch surface casing shall be set at **approximately 400** feet and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours

after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

- d. If cement falls back, remedial action will be done prior to drilling out that string.

Medium cave/karst.

Possible lost circulation in the Delaware.

Possible high pressure gas bursts in the Wolfcamp.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above.

Set intermediate casing in the Lamar Limestone at approximately 2500 feet.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. The appropriate BLM office shall be notified a minimum of 2 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
 - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug

and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

Engineer on call phone (after hours): Carlsbad: (505) 706-2779

WWI 101607